

Work Order ID 159674

Monday, April 17, 2017 1:01:03 PM

159674

40000006786
U/R

Page 1

Item ID: D169-841-015
Revision ID: URF 16-692
Item Name: AW169 Lower Cutter



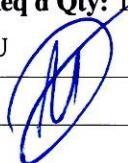
Accept

N900040100

Setup Start *NS1*
Stop *NS2*

Start Date: 5/2/2017 **Start Qty:** 1.00 ***1***
Required Date: 5/5/2017 **Req'd Qty:** 1.00 ***1***
Reference: SCHEDULED/U

Cust Item ID:
Customer:

Approvals: **Process Plan:**  **Date:** APR 17 2017
QC: **Date:** **SPC (Y/N):** **Date:**

Concession 40000006786

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
IIN-D169-841	D PER concession 40000006786 5/17/2017								

100 Document Control 0.00
100
DC
Doc.Control -USB or Paperwork
Memo
Photocopy bluefile and create labels per PPP D169-841-015 CHG002

DAS 28
8-89
JUN 02 2017

110 Pick Kit 0.00
110
Packaging
Packaging
Memo

MATERIAL CERTIFICATION
REQUIRED
F.A.I.R. COMPLETION
REQUIRED

DAS 6
8-89
DAS 27
8-89
APR 20 2017

120 QC4- 100% Inspect kits for completeness 0.00
120
QC
Quality Control
Memo

ARC must be created by QA
ARC must contain concession number
All parts must be identified w/ concession number
FAIR must be completed

DAS APPROVAL
28 ONLY
8-89
JUN 02 2017

POSITIVE RECALL
EFFECTIVE 7/4/18 AUTH
RELEASED DATE
CONCESSION 40000006786

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : _____			
Misidentified ☐		Past Due ☐					

Work Order ID 159674***159674***

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Monday, April 17, 2017 1:01:03 PM

Item ID: D169-841-015 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 16-692 Stop ***NS2***
Item Name: AW169 Lower Cutter
Start Date: 5/2/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 5/5/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference: SCHEDULED/U

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP E169-841-015								
140		0.00							
140	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

DAS
28
9-28

JUN 02 2017

DAS
21
9-29

JUN 02 2017


JUN 02 2017

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
				Completed By _____					
				Lead hand / Supervisor Approval Verification _____					
				QC / QA Coordinator Approval _____					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

Monday, April 17, 2017 1:01:03 PM

Work Order ID: 159674

159674

Parent Item: D169-841-015

D169-841-015

Parent Item Name: AW169 Lower Cutter

Start Date: 5/2/2017

Required Date: 5/5/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A NEW ISSUE 13-07-17 JLM VERIFIED BY:DD IPP
REV:B 15.07.03 AS PER CHG002 ccn15-595 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4842-041		Manufactured	No				Each	1.0000		1			
D4842-041									**				
Lower Cutter Assembly													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				CCK045				1					
					158643			1					
MS21042L08		Purchased	No				Each	422.0000		5			
MS21042L08									**				
Nut													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				GA				394					
					m135274			18					
					m135978			376					
				ST303				28					
					m137061			28					
MS27039-08-24		Purchased	No				Each	194.0000		5			
MS27039-08-24									**				
Screw (MS27039-0824)													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				GA				115					
					124326			115					
				ST277				79					
					124326			79					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Picklist Print

Page 2

Monday, April 17, 2017 1:01:03 PM

Work Order ID: 159674

159674

Parent Item: D169-841-015

D169-841-015

Parent Item Name: AW169 Lower Cutter

Start Date: 5/2/2017

Required Date: 5/5/2017

Start Qty: 1.00

Required Qty: 1.00

NAS1149FN832P

Purchased

No

Each

1,498.000

10

NAS1149FN832P

Washer

DAS
6
89

APR 20 2017

DAS
27
89

Location

Loc Qty

Loc Code

GA

323

M135058

232

M136182

91

ST263

1175

M136866

1175

10

DAS
28
89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step # : _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : _____			
Misidentified ☐		Past Due ☐					

PRINTING DATE AND STATUS 14.02.2017 Assigned to QC repair result

Supplier NC N.	AWC 006/01	Date	02.02.2017	AW	400000061786	Purchase Order	4801373666
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DEFECT 0001**FO01****Wrong dimensions**

attachment

Manuf. Doc. N.	AWC 006	Date		AW Doc. N.		Purchase Order	4800671131 4800722284 4801147764 4801186922 4801218851 4801288960 4801373666
AW P/N	6F9540V00231	S/N / Batch Number	B109195 Qty. (1) B133355 Qty. (2) B134314 Qty. (1) B134315 Qty. (1) B134842 Qty. (1) B137492 Qty. (1) B137355 Qty. (2) B137816 Qty. (1) B137818 Qty. (1) B137817 Qty. (1) B140379 Qty. (3) B140381 Qty. (2) B147002 Qty. (2) B150786 Qty. (1)	Grade	A	AW Drawing Issue	B

Description	Lower Cutter Assy	Batch Q.ty	20	Defective Q.ty	20
--------------------	-------------------	-------------------	----	-----------------------	----

Manufacturer	Dart Aerospace	Model	AW169
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Defect(s) Description

Leonardo has informed Dart that there are interference issues installing the lower cable cutter D4842-041 onto the Leonardo interface bracket.

Department	Inspector	Signature	Date
Quality	DAS 16 9-89		2017/02/01

Defect(s) Cause

The Lower Cutter body has a dimension of 10.9 +0.25/-0.00 mm. This dimension was reported as part of the approved FAI and has been met with all delivered product.

Department	Inspector	Signature	Date
Quality	DAS 16 9-89		2017/02/01

Corrective Action

Complete Before

In order to mitigate the interference issue for Leonardo, Dart is proposing to remove sufficient material to make the overall installation dimension at 22.15 mm +0.05/-0.35.

Department	Inspector	Signature	Date
Quality	DAS 16 9-89		2017/02/01

For "MANUFACTURER" SUPPLIERS ONLY
ENGINEERING evaluation and proposal

Engineering evaluation

 Investigation report
 Compliance report

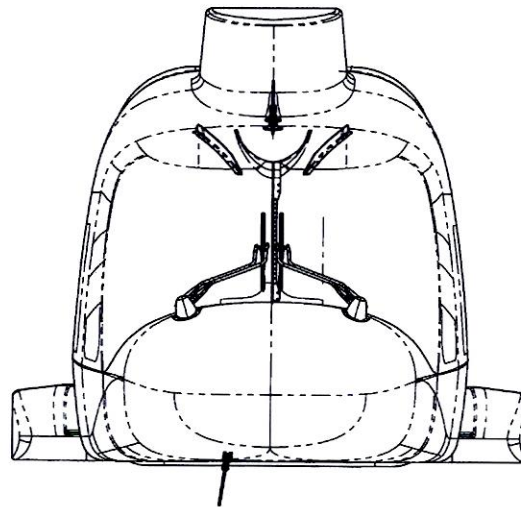
 n.....
 n.....

Dart's position is that this change will not impact the structural substantiation presented in Report DA169-4 for the lower cutter body since this is not a section with the lowest margin. Therefore removing 0.3 mm max from each part will not impact the structural integrity of the lower cutter assembly. The dimension on the cutter body part D4842-3/-4 will be 10.80 +0.00/-0.200.

The dimension change of the two lower cutter body parts mating, plus the sealant, anodize and primer layers will be defined as a dimension of 22.15 +0.05/-0.35 mm on the assembled lower cutterbody and will be incorporated into the D4842 drawing for inspection.

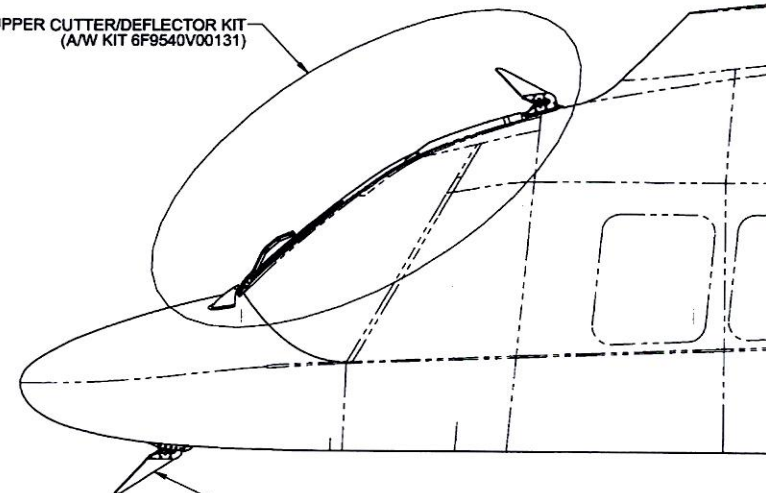
	Defect effects		Limitations
	Before any repair	After any repair	
Safety	☐ yes	☐ yes ☐ no	☐ yes (specify) ☒ no
Life	☐ yes	☐ yes ☐ no	
Strength	☐ yes	☐ yes ☐ no	
Performances	☐ yes	☐ yes ☐ no	
Interchangeability	☐ yes	☐ yes ☐ no	
Reliability	☐ yes	☐ yes ☐ no	
Maintainability	☐ yes	☐ yes ☐ no	
Installability	☒ yes	☐ yes ☒ no	
Testability	☐ yes	☐ yes ☐ no	
Only aspect	☐ yes	☐ yes ☐ no	
Repair Proposal		Decision to use	
None		☐ Use repaired with specific repair ☐ Use repaired with known repair ☐ Use as is ☐ Use repaired for tests (see Limitations) ☐ Use as is for tests (see Limitations) ☒ Scrap	
Concession Classification		☒ Major ☐ Minor	Submit after repair
			☐ yes ☐ no

REFERENCE ONLY



D169-841-011 AW169 CABLE CUTTER SYSTEM

D169-841-013 UPPER CUTTER/DEFLECTOR KIT
(A/W KIT 6F9540V00131)



D169-841-015 LOWER CUTTER KIT
(A/W KIT 6F9540V00231)

QTY -011	QTY -013	QTY -015	DART P/N	DESCRIPTION	AGUSTA WESTLAND P/N
X			D169-841-011	CABLE CUTTER SYSTEM	TBD
1	X		D169-841-013	UPPER CUTTER/DEFLECTOR KIT	6F9540V00131
1		X	D169-841-015	LOWER CUTTER KIT	6F9540V00231
1			D4821-1	WINDSHIELD DEFLECTOR	TBD
1			D4822-1	UPPER DEFLECTOR LH	TBD
1			D4822-2	UPPER DEFLECTOR RH	TBD
1			D4840-041	UPPER CUTTER ASSY	TBD
2			D4857-041	WIPER DEFLECTOR ASSY	TBD
8			MS27039-1-12	SCREW	N/A
TBD			TBD	FASTENERS	N/A
		1	D4842-041	LOWER CUTTER ASSY	TBD
		5	MS21042L08	LOCKNUT	N/A
		5	MS27039-0824	SCREW	N/A
		10	NAS1149FN832P	WASHER	N/A

D	MS27039-0824 WAS MS27039-0819. REFORMAT PARTS LIST.	AJS	15.06.12
C	D4857-041 WAS D4857-1 (D4944-1 GASKETS NOW IN D4857 DRAWING). PARTS LIST: MS27039-1-12 QTY WAS 10.	AJS	15.05.20
B	ADD D4944-1 GASKET (ZN A8-1) (ZN B6-2, B8-2) ADD MS27039-1-12 SCREW, D4857-1 WAS D4857-041/-042	DW	13.09.23
A	NEW RELEASE	DB	13.07.08
REV.	DESCRIPTION	BY	DATE
DESIGN	DB		
DRAWN	AJS		
CHECKED	CP		
MFG. APPR.	JLM		
APPROVED	WM		
DE APPR.	DS		
DATE	15.06.12		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.
IIN-D169-841

REV. D
SHEET 1 OF 2

TITLE
AW169 CABLE CUTTER SYSTEM
SCALE
NTS

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APPROVED

Work Order ID 159674

159674

Page 1

Monday, April 17, 2017 1:01:03 PM

Item ID:	D169-841-015	Accept	*N900040100*	Setup	Start	*NS1*
Revision ID:	URF 16-692				Stop	*NS2*
Item Name:	AW169 Lower Cutter					
Start Date:	5/2/2017	Start Qty:	1.00	Cust Item ID:		
Required Date:	5/5/2017	Req'd Qty:	1.00	Customer:		
Reference:	SCHEDULED/U					
Approvals:	Process Plan:	Date:	APR 17 2017	Tooling:	Date:	
	QC:	Date:		SPC (Y/N):	Date:	
					Run	Start *NR1*
					Stop	*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
IIN-D169-841	D Per (concession) 400000061786								
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile and create labels per PPP D169-841-015 CHG002								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									
120	QC4- 100% Inspect kits for completeness	0.00							
120									
QC	Memo	0.00							
Quality Control	* All must be created by QA * All must contain concession number. * All parts must be identified w/concession number * Plan must be completed								

CB

APPROVAL
ONLY

APR 17/18
concession 400000061786